

OHD Quantifit Training



QUANTIFIT

**The Gold
Standard
in Respirator
Fit Testing**

Introduction

- This training does not supersede users reading product information and manuals that are received with these products.
- Be sure to consult your department or organizational guidelines in the operation of these products.

Introduction

➤ Objectives:

- Understand Quantifit and its components
- Understand the approved Protocol & CNP
- Understand test performance
- Overview of troubleshooting issues
- Overview of FitTrack Gold™ Software

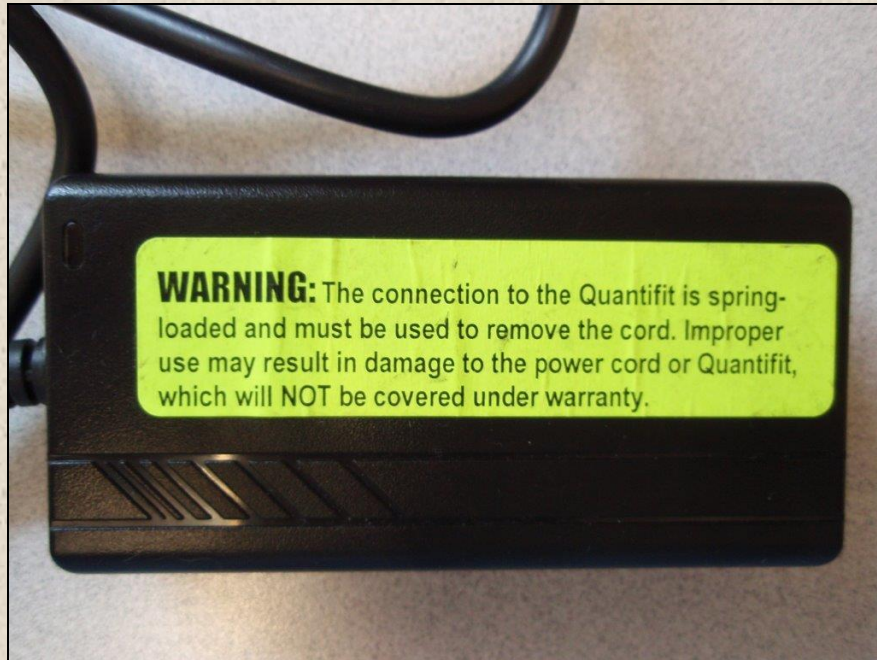
Components

- Quantifit Fit Tester:
 - No Alcohol
 - Self sufficient (if necessary)
 - Control Panel
 - Ports Overview



Components

- Power Supply:
 - Locking Collar



Components

➤ Triple Tubes:

Connects to Front Ports



Connects to Adapter & Rear Ports



Components

- Trigger Response Button:
 - Initiates testing process



Components

- Adapter:
 - Adapter will vary based upon mask style.
 - Pictured below: Kit 1 40mm adapter



Components

- Additional Components
 - Keyboard
 - Carrying Case
 - Software CD-ROM
 - Training Video CD-ROM
 - User Manual

Protocol

➤ Overview:

- Written into Federal Register 1910.134 Appendix A in September of 2004
- Utilizes Controlled Negative Pressure (CNP)
- 5 tests, each 8-9 seconds long
- Complete test can be performed in as little as 2-3 minutes.
- Proven scientific accuracy

Protocol

- Controlled Negative Pressure (CNP)
 - Creating Negative Pressure
 - Quantifit removes air from the mask and establishes and maintains a slight pressure.
 - Maintain Negative Pressure
 - The negative pressure, or challenge pressure, is held constant by removing any air that leaks into the respirator.
 - Measure the Leakage
 - The amount of air removed to keep the pressure constant is equal to the amount of air that is leaking into the respirator.

Protocol

- Computation of Fit Factor
 - Breathing Rate (BR) expressed in L/Min
 - Leak Rate (LR) expressed in cc/min
 - **Fit Factor = Breathing Rate / Leak Rate**
- OSHA Required Fit Factors
 - Full Face ≥ 500
 - Half Face ≥ 100

Protocol

- REDON Protocol: Step 1
 - Face Forward: stand and breathe normally. Face forward while holding breath for measurement.



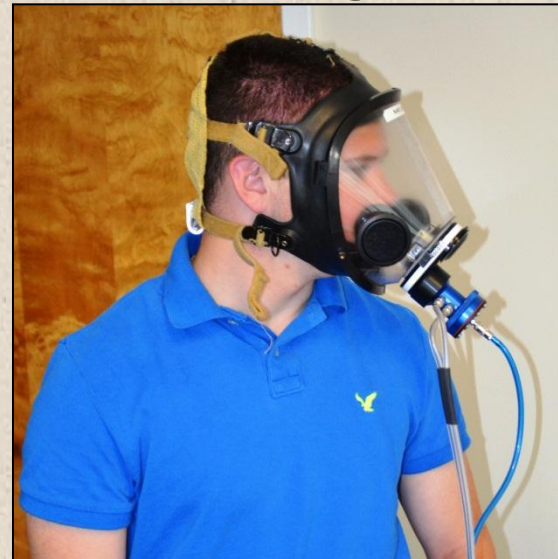
Protocol

- REDON Protocol: Step 2
 - Bend Over: bend at the waist, as if to touch your toes. Face parallel to the floor, while holding breath for measurement.



Protocol

- REDON Protocol: Step 3
 - Shake Head: For about three seconds, shake head back and forth vigorously several times while shouting. Stop and face forward while holding breath for measurement.



Protocol

- REDON Protocol: Step 4
 - Re-don, 1: Remove the respirator mask, loosen all facepiece straps, and then re-don the respirator mask. Face forward while holding breath for measurement.



Protocol

- REDON Protocol: Step 5
 - Re-don, 2: Remove the respirator mask, loosen all facepiece straps, and then re-don the respirator mask. Face forward while holding breath for measurement.



Test Performance

➤ Requirements:

- Clean shaven, no facial hair coming in contact with the seal
- Valid medical clearance to don a respirator



Test Performance

- Daily Calibration: Initial Start-Up
****Read ALL Prompts Before Proceeding.****

Daily Calibration

It is recommended that daily calibration is done each day of testing. Last calibration: 07/19/08.

Note - NIST Calibration Due: 06/05/09

Perform Calibration

Print Data

Exit

Test Performance

➤ Daily Calibration: Zero Sensors

****Read ALL Prompts Before Proceeding.****

Daily Calibration

The sensor must be zeroed before
running the dual tube cal.

Disconnect the Dual Tube. 0.00 in H₂O

Proceed

Cancel

Test Performance

- Daily Calibration: Connect Dual Tubes
****Read ALL Prompts Before Proceeding.****

Daily Calibration

Connect dual tube assembly to
'Flow' and 'Pressure' on front and to
'Dual Tube Check' ports on back of unit.

Proceed

Cancel

Test Performance

- Daily Calibration: Successful
 - Disconnect tubes from the back

Daily Calibration

Calibration Successful.

Remove the Dual Tube Assembly
from the 'Dual Tube Check' ports.

Print Data

Exit

Test Performance

- Data Entry
 - Personnel ID
 - First Name
 - Last Name
 - Job Code/Title
 - Test Operator Name
 - **Mask Size/Style
 - **Proper Protocol Selected

Test Performance

- Test Preparation: Test Protocol
 - Re-Don Protocol: recommended for Scott M110, MSA Millennium, and similar style masks
 - SCBA Protocol: recommended for Scott AV2000/ AV3000 and similar style masks

Test Performance

➤ Test Preparation: Inhalation Valves

IMPORTANT:

Inhalation valves must be PROPPED OPEN or REMOVED from the respirator mask prior to the Fit Test! Press Enter to continue.

- Inhalation valves must be propped open
 - Allows air to be evacuated
 - Make sure gaskets remain in place

Test Performance

- Test Preparation: Adapter
 - Attach fit test adapter to mask
 - Connect tubing
 - Clear tubes connect to the twin plugs
 - Blue tube connects to the single tube in-line with the adapter gasket

Test Performance

- Subject Instructions:
 - Breathing
 - Take a normal breath
 - Lips closed
 - Hold breath for 8-10 seconds
 - Posture
 - Remain still
 - No swallowing or chewing

Test Performance

- Five Step Fit Test: 8 Seconds Per Test
 1. Face Forward – run step
 2. Bend at the Waist – run step
 3. Shake Head
 - Shake head, stop, face forward – run step
 4. Redon 1
 - Remove mask, redon, face forward – run step
 5. Redon 2
 - Remove mask, redon, face forward – run step

Test Performance

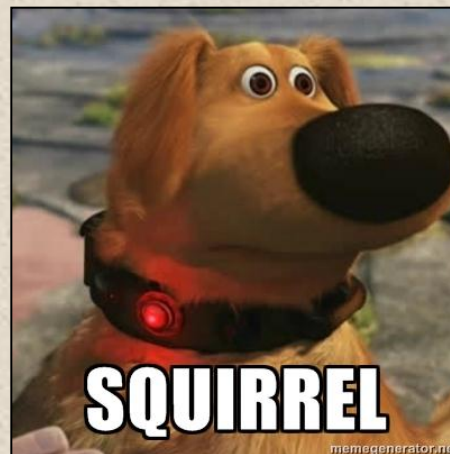
➤ Operator Instructions:

- Press and hold trigger button for duration of each 8 second test
- Once 8 seconds has lapsed and Quantifit has exhausted, direct subject to breathe normally and release trigger button
- Results are saved after a step passes
- When a pass occurs Quantifit will advance to the next step
- If a step fails (or is aborted) you will be prompted to save or retry

Mastery Skills

➤ Common Challenges:

- Subject not following instructions:
 - Subject movement
 - Subject opening mouth, swallowing, etc.
 - Subject not keeping mouth closed
 - Subject distracted (nervous, distracted, sabotage, not following directions)



Mastery Skills

- Common Challenges:
 - Involuntary subject issues:
 - Coughing, hiccups, etc.
 - Nasal air leakage (nose-clips)

Mastery Skills

➤ Common Challenges:

○ Mask Donning and Placement Issues:

- Mask not centered on the head
- Mask sized incorrectly
- Hair trapped in the seal
- Sunken temple
- Visible facial scars
- Facepiece not donned properly
- Facepiece straps worn, stretched or not tightened down sufficiently



Mastery Skills

- Competency Skills, Main Takeaway
 1. Set-up Quantifit
 2. Daily Calibration
 3. Data-entry
 4. Conduct a Fit Test



FitTrack Gold™ Software

➤ Overview:

- Updated Interface: Dashboard
- Comprehensive Security Settings
- Firmware Upgrades Directly Through Software
- Customizable Reporting
- Synchronizing With Other Databases
- Importing / Exporting Data

- Lets Try It!

Questions?